

II.

MY DUTCH NEW GUINEA EXPEDITION, 1928.

By ERNST MAYR.

IN the autumn of the year 1927 I was asked to undertake a collecting trip to Northern New Guinea for Dr. Sanford and Lord Rothschild. In spite of my inexperience in bird collecting I accepted their proposition with enthusiasm and began immediately with my preparations. I studied in the Museums of Tring and Berlin the bird fauna of New Guinea and, when I left Germany in February 1928, I knew the name and systematical position of every bird which I expected to meet. This helped me in my fieldwork very much and enabled me to collect large series of the interesting species.

In March 1928 I arrived at Java, where I made the necessary arrangements with the Dutch Government and the Buitenzorg Museum. After a beautiful trip through the Moluccas, I arrived on the 5th of April at Manokwari, the capital of North-West New Guinea.

My main task was to collect the mountain ornithology of New Guinea, especially that of the Arfak Mountains in the Vogelkop (Berau Peninsula). During the past century this mountain range has been visited by quite a number of zoological expeditions and its bird life was considered to be well known. But many of the species were collected only in few specimens (often without exact labels), and larger series of Arfak birds were therefore badly wanted, especially for comparison with the representatives from the other mountain ranges of New Guinea.

Manokwari is well known under the name Dorei as terra typica of many New-Guinea species, and it would have been of value to collect in this locality, but I decided not to lose any time in the lowlands (where I collected only from the 6th to the 10th of April) and to start for the mountains as soon as possible.

On the 12th of April I went by the small motorboat *Griffioen*, belonging to the Dutch Government, to Momi (Mum) (Wariap), where I collected lowland birds for two days till my carriers arrived. As I had planned to stay in the mountains for three or four months, I needed more than fifty boys to transport all my provisions and the collecting outfit. The mountain tracks are very rough and the New Guinea boys are not used to the work of carriers. They never want to take a load heavier than 25 or 30 lb. I was accompanied by three Javanese "mantris" (Malayan preparators) and three coastal natives (as butterfly collectors). The latter I had to send back to the coast very soon, because they turned out to be extremely lazy and useless. I replaced them with mountain natives who worked better, but it takes a lot of experience to become a successful butterfly collector.

The native path from Momi to the mountains led us first for four hours through the wonderful virgin lowland forest. Characteristic of this woodland is the sombre light, the immense silence (which is interrupted only occasionally by the calls of a bird, especially by the notes of *Pachycephala* and *Monarcha*) and the scarceness of undergrowth below the giant trees.

We passed a little village and numerous streams till we finally arrived at the bed of a small mountain river, which we followed upwards for some time.

When bathing at Manokwari I had hurt my foot on a coral reef, and the continually wet shoes due to wading in the water made the sore worse every minute. Finally we left the creek, the road went up the hillside and the climbing of Mount Taikbo (1,400 m.) began. In these Islands, native tracks very seldom zigzag across the slope of mountains, but lead usually straight upwards, mostly along a crest. I think all the native roads here have been originally pig tracks and the pigs prefer to make their tracks along the ridges, as I found out in the uninhabited Wandammen and Cyclops Mountains, and later on in the Solomon Islands. My boys, not used to carrying, did not get along very well, and I was forced to make camp at an altitude of 1,100 m. The forest had changed while I climbed, it became lighter, the trees smaller, the undergrowth denser, palms and ferns were numerous and moss and lichens became conspicuous. After eleven o'clock the higher zone (above 800-900 m.) was enveloped in a dense veil of mist. It did not rain (yet!), but big drops were falling down from all the branches.

The bird life too had changed; the calls of the well-known lowland birds (*Dicrurus*, *Cracticus*, *Philemon*, *Mino*, etc.) had vanished and I heard now for the first time *Lophorina*, *Drepanornis albertisi*, *Pachycare* and the mountain *Pachycephala* species. The night temperature went down to 18° C. and my boys felt the cold and did not get much sleep, in spite of the big fires.

The next morning we ascended to the summit and went down to the village of Siwi, which consists of isolated houses and is situated along the slopes of a little mountain valley.

There are no big villages in the Arfak Mountains, but the communities are made up of groups of isolated houses. I established my camp at the bottom of the valley (800 m.) at the side of a little river, where I had no trouble in getting water for washing and cooking. The weather was rather bad at first, and I lost several days because my hunters stayed in camp on account of the rain and the cold. I was handicapped by sickness, too. One of my mantris had a bad attack of malaria, and another suffered from arsenic poisoning, one of the boys developed pneumonia and the third mantri and myself sores, which forced me to stay in camp for quite a long time. On the 18th of April I started to employ native hunters while my preparators stayed in the camp and did all the skinning. The natives of the Arfak Mountains were rather keen hunters and had a marvellous knowledge of the habits of the various species. Birds are their most important meat, and whenever they have nothing else to do they go out with bow and bird-arrows and shoot birds for food. It was easy for me to get hunters, but most of the natives were inclined to go too close to the birds and shot them to pieces. It took me quite a long time to teach them to shoot from a proper distance. The collecting of butterflies was not very successful, especially as the nights were not favourable.

The bottom of the Siwi valley and the lower slopes are mostly covered with native gardens, secondary forest and alang-alang, which is burned down every year. Farther away from the houses the mountains are covered with the typical hill-forest, and above an altitude of approximately 4,500 feet with the mountain forest, in which the former gradually merges. In the grassland (and on the edges of the secondary growth) I found *Malurus*, *Erythrura papuana*, *Artamus maximus*, *Munia tristissima*, and as migrant *Locustella fasciolata*. In the hill-forest I met most of the species Dr. Hartert enumerates in the following

list under the locality Siwi. They were collected at an altitude of from 800 and 1,500 m.

From the 4th to the 10th of May I was away from Siwi, having gone to Momi for mail and food and to send away the first collection; in the meantime the Malaysians sexed the birds, which has to be considered when studying the specimens.

After my return from the coast I tried to get larger series of all birds of which I had not many specimens yet, especially of those species which occur only in the hill-forest, i.e. between the lowland and 4,500 feet. The weather was very changeable; some days we had no rain at all, while on other days it rained all the time, but I think we never had a day without fog. The temperature at 800 m. was usually 18°–19° C. in the morning, 24°–26° C. at noon and 22°–23° C. in the evening.

I stayed in Siwi till the 24th of May, and during all the time I remained on the best terms with the natives. Some small troubles were caused by my inexperience and by the native police which were sent to me by the Dutch Government. After I got rid of this police force I had no more difficulties with the natives.

On the 22nd carriers of three villages arrived and we broke up our camp on the morning of the 23rd, but as I had a fainting fit on account of fever, we left on the 25th only, when we went as far as Ninei (800 m.). The next day we only went as far as the foot of the 1,800 m. high Mundi Mountain, as I was very weak after a day's fever. Finally on the 27th we climbed the Mundi, went down the other side to the river and then up again to the village of Ditschi (Ditshi), which is situated at 1,200 m. It was a very trying march for me, but very interesting too, because I met on Mount Mundi for the first time real moss forest with all its interesting birds (such as *Clytomyias*, *Psittacella*, etc.).

The Ditschi valley has such a luxuriant forest that I hardly believed I was 1,200 m. up, but my thermometer showed me that it was considerably cooler in the night than at Siwi, the temperature in the morning being 16°–17° C., noon 22°–23° C., evening 19°–20° C. Ditschi is situated on the slopes of Mount Wamma, opposite Mount Lehuma, both mountains having an altitude of 1700–1800 m.; here I collected most of my mountain birds.

Only a few miles west was Mount Lima (2,870 m.), which I could see very clearly through my field-glasses, and the desire to visit and collect on still higher mountains than the ones around Ditschi grew stronger in me from day to day. It was impossible to reach Mount Lima without great trouble, but after long negotiations I succeeded in arranging a visit to the Anggi lakes and surrounding mountains, which reach an altitude of 2,400 m.

I was warned by Government officials and coastal natives not to go to this dangerous place. Till recently the Anggi natives had been great fighters, and they were still considered to be untrustworthy. Finally I sent a messenger up and asked for an invitation. If I could go up there as a guest, everything would be safe for me, and I calculated that the curiosity of this people to see a white man would be stronger than their defiance and aloofness. White people visit this part of the Arfak Mountains extremely seldom, and in most of the villages I was the first white man. Women and children left the houses screaming when I appeared.

Two days later the chief of Kofo, a village of Anggi gidji (the male Anggi

lake), arrived at Ditschi with ten boys, to invite me to his village. On the 9th of June I left Ditschi with my mantri Sario and two Siwi boys, the rest being the quite harmless Anggi boys. The track up to the Anggi lakes was a constant up and down, led across rivers, and frequently was hardly visible, etc. I was rather pleased to arrive at Dohunsehik, a little village on the upper Issim (1,400 m.), which is wonderfully situated in the middle of the mountain forest.

The next morning I wanted to give out small cartridges, but noted to my horror that I had taken the wrong box. I sent back a boy to Ditschi, who, as I hoped, would arrive at the Anggi lakes one or two days later. After a strenuous climb, I arrived at Kofo at three o'clock, the boy with the cartridges arriving at five o'clock, he had thus run a three days' march in one day's time. I quote this example to show the marvellous efficiency of these mountain Papuans. On the way we had to pass the summit of Mount Dohoidjoko (and Hoidjoserera), which is 2,400 m. high, and has a very interesting vegetation. After we had left Dohunsehik we passed first through typical mountain forest, higher up through moss forest, but on the ridge, especially above 2,000 m., I found a vegetation quite unfamiliar to me. It was a kind of open heath with grassland patches and rhododendron, etc., shrubs between. As far as I could ascertain, this region had no birds peculiar to it, with the exception perhaps of *Scolopax*; I found one species of butterfly nowhere else. It was rather disappointing for me to hear, to see and to shoot at 2200-2400 m. only the same birds as 1,000 m. farther down, which rather spoiled for me the wonderful view one gets from here of the two Anggi lakes.

After a short rest we descended to the Anggi gidji, and here in the reed edge of the lake and the surrounding strip of grassland I got the great surprise of my Arfak excursion: I found quite a number of species which were hitherto completely unknown from this region. The Anggi gidji is about 7 km. long and 2-4 km. wide. At its north end the Profi River leaves the lake, later on flowing through the Hattam valley, and at this end of the lake there are vast stretches of reed, while at the south end of the lake (where I collected) the mountain slopes fall steep into the lake and only where the streams reach the lake there are small patches of reeds. Here I found *Acrocephalus arundinaceus*, *Fulica atra*, *Anas superciliosus*, *Podiceps ruficollis*, *Porzana tabuensis* and *Rallus pectoralis mayri*. In the adjoining grass country I found the new *Munia vana* and *Megalurus timoriensis* and in the mountain forest the typical New Guinea mountain birds. I was favoured by the weather and had hardly any rain during the five days I stayed at the lakes, but it was rather cold (at 6 h. $9\frac{1}{2}^{\circ}$ - 12° C., 9 h. 16° - $17\frac{1}{2}^{\circ}$, 12 h. 17° (after rain) 23° , 15 h. 19° - 21° , 18 h. 15° - 16° ; in Dohunsehik 1,400 m. from 6 h., -18 h. 14° , $19\frac{1}{2}^{\circ}$, 23° , 22° , 19° C.).

On account of an order of the Dutch authorities I could not stay longer than five days, and left the lakes very reluctantly on the 16th of June. It was one of my most successful collecting trips and the natives did everything to help me and make me comfortable.

In Dohunsehik I stayed two days more to get *Astrapia* which occurred, according to native information, only in this locality. The boys succeeded in getting one specimen and some other fine birds, such as *Climacteris* and *Orthonyx novaeguineae*. On the 19th I returned to Ditschi, where my other boys had worked without my supervision for the last ten days.

I would have liked to stay at Ditschi for some time longer, but I had to return to the coast on the 22nd for different reasons.

After a forced march of three days I arrived at Momi on the afternoon of the 24th. I left my bird-skinners there to pack the birds and to collect some of the more interesting lowland species, and I went by canoe to Manokwari (60 miles away) to get fresh provisions and the new outfit (ammunition, etc.) which I expected by the June steamer.

On the 28th of June I went back to Momi in two canoes, my own loaded with outfit, the other one with provisions. On the next day we had a terrible storm and the other canoe disappeared. I waited in Momi from the 30th of June to the 4th of July without getting any news about my provisions. In the meantime the *Griffioen* had arrived to take me to Wasior (Wandammen), whither I departed without having received the food necessary for my intended trip to the Wandammen Mountains. On the 4th of July I left Momi with my skinners and all the outfit and arrived at Wasior after a very interesting voyage (passing Rumberpon (Amberpon) and Mios-War) on the morning of the 5th. The high, steep and isolated range of the Wandammen Mountains was visible far away and promised a good collection.

On the 5th I packed my loads, tried to get some sago and dried fish cured by natives (I had neither rice nor meat tins nor any other provision on account of the canoe disaster), and started for the mountains on the morning of the 6th of July. We had to cut our way through the undergrowth in this uninhabited range and progress, therefore, was very slow; on the 7th I reached at 1,400 m. the highest place with water, and made camp. It was a very disagreeable place in the wet mountain forest and the unfavourable weather made it worse. The eleven days I stayed there it rained all the time; we had just half an hour of sun. We could not find dry firewood, we could not dry our clothes, and it was no wonder my boys got ill and became discontented very soon, there being insufficient food also. I had to agree to return to the coast much earlier than I had intended, which was a great pity considering the splendid results I had obtained in this quite unknown region.

In spite of the bad conditions I made a collection of 200 specimens in the mountain camp. The abundance of bowers of *Amblyornis inornatus* was striking. The birds proved to be very interesting links between the fauna of the Arfak Mountains and that of the Snow Mountains. Returning to the lowland I collected there for some days till the steamer *Van Noort* picked me up and brought me to Hollandia.

Hollandia is situated on Humboldt Bay, near the border of ex-German New Guinea. My task here (proposed by the Tring Museum) was to collect thoroughly not only the birds of the Cyclops Mountains, but also those of the lowlands, which were almost unexplored as yet in this vicinity.

The Cyclops Mountains were considered to be of special interest, because the Dumas collection from Mount Moari, a collection which contained many interesting species, among them the type of *Melopitta gigantea*, was supposed to have come from this locality. Very soon after I had started my collecting in the mountains I became convinced that the Dumas collection never came from this locality and I could prove later on that Mount Moari ("Mori" Salvadori) is in the Arfak Mountains near Oransbari between Andai and Momi. Many zoogeographical difficulties could be solved now as a result of this discovery.

The birds of the Cyclops Mountains were therefore still unknown: de Beaufort had collected in the lowlands and the collection obtained by Goodfellow at a low altitude had never been worked out, only one supposed new species (*Cicinnurus goodfellowi*) having been described.

The Cyclops Mountains fall very steeply into the sea on the north side and are quite inaccessible there; I had to try therefore to reach the summit from the Sentani Lake, which is situated south of the mountains. The region of the Sentani Lake is well populated and it is not very hard to get carriers there, which was another advantage.

The road from Hollandia to the lake, which latter is the largest in Northern New Guinea, was a great surprise to me. While the whole of Western New Guinea is covered with tropical forest, I met here the first grass steppe. For miles and miles around the Sentani Lake all the country is grassland, and the many indigenous subspecies prove that it must be of very old origin. Nowadays the natives burn the grass regularly, and the forest is going back every year, but I am convinced (contrary to the opinion of botanists) that this grassland here is a very old one. It is isolated now more or less from the grassland patches of Eastern New Guinea, but I think that in former geological periods the steppe had a much wider distribution in New Guinea than now.

In Ifar, the government station on the Sentani Lake, I succeeded after several days in getting carriers and a guide, who promised to take me to the highest point in the mountains where there was water. On the 18th of August we departed. For the first two hours the path led through the burning hot along-along grass. I imagined I was travelling through the more than man-high grass of an African savannah, till we finally reached the foot of the mountain and entered the cool forest. The guide led us up the bed of a small river or mountain-stream and we climbed with much difficulty over the big rocks, till finally waterfalls barred our way completely. The guide admitted now that he had never gone up so far and tried to persuade me to leave this unsafe place and go back into the lowlands. There was nothing else for me to do but to take the leadership myself and try to find a way up. I went away from the brook and finally found a ridge with a pig-track. We cut our way through the heavy undergrowth and ascended slowly. At an altitude of about 800 m. I was forced to establish my first camp near a spring, and the next morning, after I had tried in vain to find a higher stream, I sent the carriers back. The first collecting day proved to me that the bird life of the Cyclops Mountains was very poor. I did not hear the notes of any of the interesting species which were so well known to me from the Arfak and Wandammen Mountains, and especially listened in vain for those of the high mountain Birds of Paradise.

I tried again to find a higher "water place" in the hope of getting interesting species higher up. After eight days of searching on these terribly steep mountain slopes, I finally succeeded in finding a good camping place at an altitude of 1,400 m., whereto we changed our camp on the 3rd of September. I climbed from here several times to the summit (2,170 m.), but I could not find many new birds in spite of all my efforts. The little bush-mites were very bad in our camp and we all got sores from too much scratching. After I had collected series of most of the birds I returned to Ifar, mainly because most of my hunters and Malays had left me before on account of sickness and the cold. It would take too long to describe all the troubles and difficulties one meets with in New Guinea.

I was back in Ifar on the 14th of September and started to collect the interesting grassland- and lake-birds. In the grassland I found several species of *Munia*, *Cisticola exilis*, *Megalurus timoriensis* subsp., *Saxicola caprata aethiops*, *Malurus alboscapulatus*, *Merops philippinus salvadorii*, *Chlamydodera cervini-ventris*, *Synoicus plumbeus* and other interesting species; on the lake cormorants, ducks, rails and *Irediparra*. Besides these, I collected some other interesting lowland birds, such as *Stigmatops*, etc.

During the first week of October I finished my lowland collecting and returned to Hollandia, to send away my collection and to prepare for my departure to "German New Guinea." In the meantime I had sent some of my boys to Hol (also called Hol tekong), which is opposite Hollandia on the other side of Humboldt Bay (not far from the mouth of the Tami). They collected there a good series of *Drepanornis bruijni* and, as they maintained, in the mangrove swamps two specimens of *Megacrex inepta*. Dr. Hartert, thinking Hol to be an abbreviation of Hollandia, had not kept the Hol birds separate from the Hollandia birds, but when I called his attention to this fact he corrected his MS. and proof; it is, however possible that in one or more cases a mistake was made.

The expedition came to an end the middle of October, my Malayans returning to Java on the 20th of October, while I went to former German New Guinea on the 21st. In six and a half months I had collected almost 3,000 specimens of vertebrates (2,700 birdskins and 260 mammals, also about 260, mostly damaged and flat bird hides).